Notes on the Hydroids of Plymouth.

By

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With Plate XXVI.

During the two years which I spent at Plymouth I collected a number of notes on the occurrence and distribution of the Hydroidea of the district, with the intention of giving a full account of the representatives of the group in the Plymouth area. My unexpected departure has prevented my carrying out this intention, but it has seemed to me worth while to publish my notes, fragmentary as they are, in the hope that they may be useful to my successors, and particularly because the list of the Hydroidea given in Part ii of the first series of this Journal is very imperfect. The list of species now given is incomplete, and had I had the time to search more closely for the inconspicuous and deep-water forms I should have been able to add largely to it. One species, which I only succeeded in obtaining twice, appears to be new to science.

Gymnoblastea.

Family CLAVIDÆ.

Clava multicornis, *Forskål.*

This well-known species is very common in tide pools on the rocks below the Hoe, and inside Penlee Point. I have also found it in Wembury Bay.

Clava cornea, *T. S. Wright.*

A small colony with ripe gonophores growing on *Fucus serratus*. Drake's Island, February 11th, 1888.

Family HYDRACTINIIDÆ.

HYDRACTINIA ECHINATA, *Fleming.*

Fairly common on shells of *Buccinum undatum*, from ten to twenty fathoms. Duke Rock. Mewstone. Bigbury Bay.

Family PODOCORYNIDÆ.

PODOCORYNE CARNEA, *Sars.*

A few specimens from old shells, ten to twenty fathoms. The Medusa is common outside the Breakwater in summer months.

Family CORYNIDÆ.

CORYNE VAGINATA, *Hincks.*

Several fine colonies of this species from rock pools in Wembury Bay, June and July, 1890. Also on previous occasions from Drake's Island and Bovisand Bay. Gonophores May to August.

CORYNE PUSILLA, *Gaertner.*

Drake's Island, May, 1890. A good specimen, with gonophores, from Whitsand Bay, July 11th, 1887, appears to belong to this species.

CORYNE FRUTICOSA, *Hincks.*

A few polypes, without gonophores, collected by Mr. Heape, appear to belong to this species.

SYNCORYNE EXIMIA, *Allman.*

A fine specimen, with gonophores, on an old piece of rope, one mile south of the Mewstone, May 11th, 1889.

Family MYRIOTHELIDÆ.

MYRIOTHELA PHRYGIA, *Fabricius.*

This fine and interesting species is common in the neighbourhood of Plymouth. The gonophores are large and ripe from May to

August, and the peculiar free zooid may easily be procured during these months. Habitat on the under sides of stones near low-water mark. East side of Drake's Island. Near Picklecombe Fort. Bovisand Bay. Mewstone. Wembury Bay, very common immediately below Wembury Church. Duke Rock, seven fathoms.

Family EUDENDRIIDÆ.

EUDENDRIUM RAMEUM, *Pallas.*

From the Eddystone, thirty fathoms. Not common.

EUDENDRIUM RAMOSUM, *Linn.*

Very common. Duke Rock. Off the Mewstone.

EUDENDRIUM CAPILLARE, *Alder.*

Growing on worm tubes and on *Antennularia antennina* off Stoke Point, April, 1889. Duke Rock.

Family ATRACTYLIDÆ.

PERIGONIMUS REPENS, *T. S. Wright.*

Growing on the legs of a crab, deep water, July 19th, 1888. From *Turritella* shells, two miles south-west of Rame Head.

PERIGONIMUS VESTITUS, *Allman.*

Brought in by a trawler, May, 1890.

BOUGAINVILLEA RAMOSA, *Van Beneden.*

Drake's Island, August 11th, 1888.

Family TUBULARIIDÆ.

TUBULARIA INDIVISA, *Linn.*

Not common at Plymouth. Rock pools, south side of Drake's Island, August 11th, 1888. Whitsand Bay.

TUBULARIA LARYNX, *Ellis and Solander.*

Growing profusely on the Duke Rock Buoy, and on other buoys in the East Channel, September, 1889.

TUBULARIA BELLIS, *Allman.*

Growing in profusion on stones at extreme low-water mark, north side of Breakwater, May, June, and July, 1890.

CORYMORPHA NUTANS, *Sars.*

Five specimens of this species were taken by Mr. Heape in Whitsand Bay in about three fathoms, below Fort Tregantle, on May 17th, 1887. Though we have dredged constantly in the same locality, we have never succeeded in obtaining another specimen.

Calyptoblastea.

Family CAMPANULARIIDÆ.

CLYTIA JOHNSTONI, *Alder.*

Ubiquitous on algæ and on other hydroids.

OBELIA GENICULATA, *Linn.*

Very common, growing preferably on *Laminaria.* It has appeared in the aquarium, and covers many of the standpipes and gratings where there is a steady and continuous current.

OBELIA DICHOTOMA, *Linn.*

Attached to worm tubes, Whitsand Bay; and from trawl refuse near the Eddystone.

OBELIA LONGISSIMA, *Pallas.*

From trawl refuse outside the Eddystone.

CAMPANULARIA VOLUBILIS, *Linn.*

From shells, Duke Rock Buoy.

CAMPANULARIA RARIDENTATA, *Alder.*

On weeds, trawl refuse, May, 1890.

CAMPANULARIA FLEXUOSA, *Hincks.*

Very common in rock pools beneath the Hoe, and on weeds.

CAMPANULARIA ANGULATA, *Hincks.*

From the shore, Bovisand Bay, July 27th, 1889.

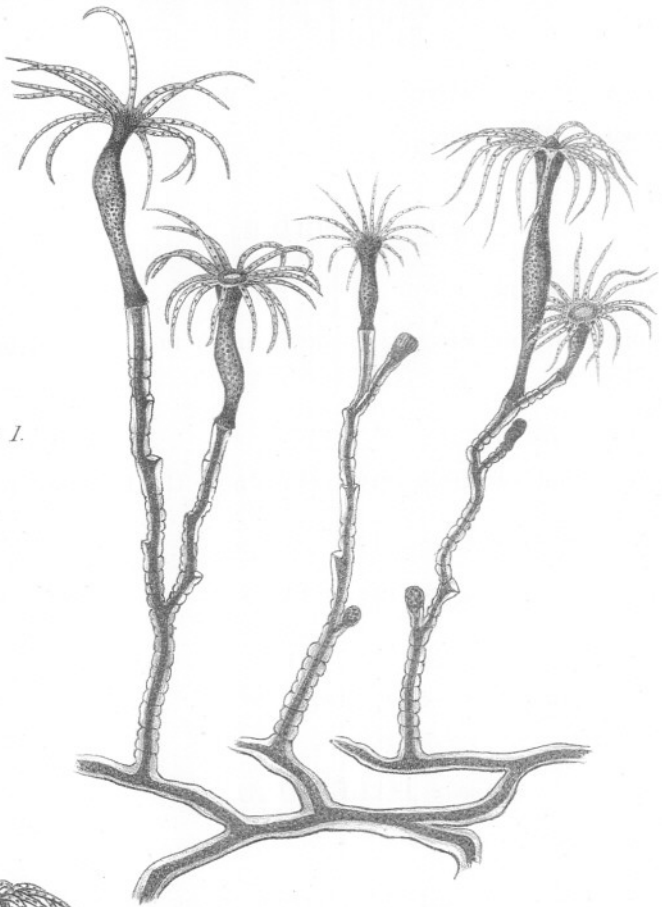

Fig 1.

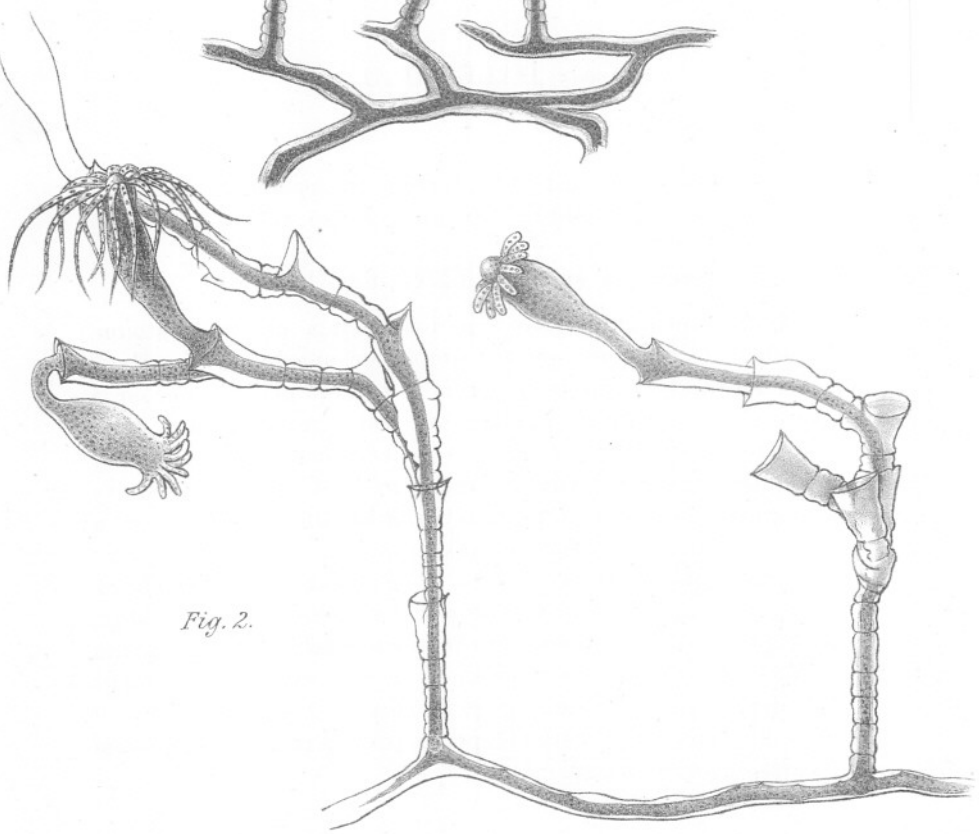

Fig. 2.

CAMPANULINA ACUMINATA, *Alder*.

From trawlers, May, 1890.

Family LAFOËIDÆ.

LAFOËA DUMOSA, *Fleming*.

This species, var. *robusta*, is not uncommon in twenty fathoms near the Eddystone.

LAFOËA FRUTICOSA, *Sars*.

From Stoke Point and from trawl refuse near the Eddystone.

CALYCELLA SYRINGA, *Linn*.

A very common species, growing profusely on roots of *Laminaria*.

CUSPIDELLA COSTATA.

Growing on weed, trawl refuse, May, 1890.

Family HALECIIDÆ.

HALOIKEMA, nov. gen.

Generic Characters.—Stems erect, simple or sparingly branched, ringed. Hydrothecæ pedicillate, hydranths large, non-retractile.

HALOIKEMA LANKESTERII, n. sp. Pl. XXVI, figs. 1, 2.

Shoots erect, springing from an interlacing creeping stolon, composed of many distinct joints, simple or sparingly branched. Hydrothecæ alternate, sometimes borne on a short pedicel, one or a pair separated by a variable number of joints, generally not more than three, tubular, with a slightly everted rim. Hydranth very large, elongated, fusiform, with a single circlet of sixteen to twenty filiform tentacles, non-retractile. Hydranths and cœnosarc of a deep brown colour. Reproduction unknown.

I have only obtained this species twice—near the Duke Rock Buoy, May, 1889, and at the southern end of Jennycliff Bay, May, 1890. I kept the last specimen alive for some weeks in the aquarium in the hope of studying the reproduction, but all the specimens eventually died without producing gonophores.

This is a fine and very distinct species, easily recognisable from

its very large, deep brown, and absolutely non-retractile polyps. It grows on flat stones at a depth of seven fathoms. It is closely allied to the genus *Halecium*, which it resembles in the form of the polyp and the character of the hydrothecæ; in habit it comes nearest to *H. tenellum*. The ringing of the stem, the pedicillate hydrothecæ, and the non-retractile polyp, which is relatively much larger than the partially retractile polyps of the genus *Halecium*, are sufficient to warrant its being placed in a distinct genus. I have named the species after Professor E. Ray Lankester, to whose energy and enthusiasm the Marine Biological Association owes its existence, and to whom I am personally indebted for much kindness and advice.

HALECIUM BEANII, *Johnston*.

Very common. Duke Rock. Bigbury Bay. Off the Mewstone.

HALECIUM HALECINUM, *Linn*.

Very common, and generally taken with the preceding species.

Family SERTULARIIDÆ.

SERTULARELLA POLYZONIAS, *Linn*.

Common and generally distributed on clean stony ground, seven to twenty fathoms.

SERTULARELLA GAYI, *Lamoureux*.

Wembury Bay. Cawsand Bay. Duke Rock. Eddystone. Common.

DIPHASIA PINASTER, *Ellis and Solander*.

Very common in trawl refuse. South of Eddystone.

SERTULARIA ARGENTEA, *Ellis and Solander*.

Plymouth Sound. Start Point. Trawl refuse from Eddystone.

SERTULARIA PUMILA, *Linn*.

Growing in profusion on rocks and weeds between tide-marks.

SERTULARIA CUPRESSINA, *Linn*.

Common in trawl refuse from the Eddystone, and very common in forty fathoms near the Wolf Rock.

SERTULARIA ABIETINA, *Linn.*

Common in trawl refuse.

HYDRALLMANIA FALCATA, *Linn.*

Very common in twenty fathoms. Two specimens only taken inside the Sound, north of Batten Breakwater, and probably thrown overboard by trawlers.

THUIARIA ARTICULATA, *Pallas.*

Wembury Bay. Stones and shells off Mewstone.

Family PLUMULARIIDÆ.

ANTENNULARIA ANTENNINA, *Linn.*

This and the next species are common, growing on rocky ground inside the Sound, and outside up to twenty fathoms.

ANTENNULARIA RAMOSA, *Lamarck.*

Hincks gives, as a diagnostic character of this species, "Hydrothecæ separated by a single joint." This is not correct. It is invariably correct for the basal portion of a branchlet, but towards its termination two joints are often seen between two hydrothecæ. The same author erroneously says, "Gonothecæ single;" they are in fact paired, one pair at the base of each branchlet. The gonothecæ are single in *A. antennina*, and this difference affords a good specific character.

AGLAOPHENIA TUBULIFERA, *Hincks.*

August to October. Not uncommon from Wembury Bay and off the Mewstone. I am not quite sure of the identity of this species. In most of the specimens I examined the corbula has invariably the spur mentioned by Hincks as characteristic of this species, but the hydrothecæ are exactly those of *A. pluma*, everted, patulous, and strongly dentated, quite unlike those of *A. tubulifera*, Hincks.

AGLAOPHENIA PLUMA, *Linn.*

Common on the fronds of *Halidrys siliquosa*, Bovisand Bay, and off Mewstone.

AGLAOPHENIA MYRIOPHYLLUM, *Linn.*

A few specimens brought in by trawlers from deep water.

PLUMULARIA FRUTESCENS, *Ellis and Solander.*

From Wembury Bay.

PLUMULARIA CATHARINA, *Johnston.*

Not uncommon. Duke Rock. Winter Shoal. Off Stoke Point.

PLUMULARIA SETACEA, *Ellis.*

Common in the Sound. The variety of branched and luxuriant habit mentioned by Hincks (Brit. Hydroids, p. 297) is very common, generally growing on *Halichondria panicea.*

PLUMULARIA SIMILIS, *Hincks.*

Jennycliff Bay. Rocks below Laboratory. Common.

PLUMULARIA ECHINULATA, *Lamarck.*

Growing on weed; not very common.

PLUMULARIA PINNATA, *Linn.*

Common. Duke Rock. Barnpool. Off Mewstone.